# DATA SHEET

## PRIMERGY RX300 S4

**Issue: July 2009**

## - Dual Socket, Quad-Core, Xeon® 2U based Rack Server – Compact capacity in central service to your departments

PRIMERGY RX servers offer the perfect solution to downsize data center infrastructure costs efficiently. Basis for it is an IT strategy for more transparency of structure- and administrative expenses as well as maximum use of investments. Our broad portfolio of innovative virtualization, server and solution offerings for TCO reductions of 60% or more provides best prerequisites. Optimized air flow cooling technology assures a long life, highest possible performance/watt as well as by far best in class efficiency -proven by numerous benchmark records.
Benefit from our renowned experience in datacenter technology. These allow it, to transfer the availability rates of high end UNIX servers to RX rack servers, PRIMECENTER rack enclosures and infrastructure products.
PRIMERGY ServerView Suite with remote management functions provides comprehensive management from anywhere at any time. Our flexible custom supply model and our build-to-order process means that only fully built and pre-tested rack solutions are shipped to the customer. Last but not least Fujitsu Technology Solutions proven commitment to green IT offers clear competitive advantages to our customers.

### PRIMERGY RX300 S4
PRIMERGY RX300 S4 rack server packs the capacity of a fully-featured departmental server into a rack design only 2 U in height. It is offering the performance features of leading edge Dual- or Quad-Core Intel® Xeon® 5200/5300/5400 series CPUs embedded in a powerful design with an 8-port SAS controller and fast PCIe links and PCI-X busses. Expandability is covering for nearly any workload: 48 GB FBD667 memory, up to 12x 2.5 inch or up to 6x 3.5 inch SAS hard disk drives, and 6 free PCIe and PCI-X slots for heavy I/O requirements perfect for virtualization tasks. To guarantee its high availability level, PRIMERGY RX300 S4 delivers: redundant hot-plug power supply and fans option, Hot-pluggable hard disk drives and a modular RAID. Special attention is given to secure memory data, with SDDC hot-spare and memory mirroring option. The „Cool-safe™" technology secures optimal temperatures even at peak workloads, such ensuring longevity and extended Mean Time Between Failures.  PRIMERGY RX300 S4 is suited ideally to meet demands for continuous operation in business critical environments, running data bases, terminal services, business applications or consolidation and virtual machine tasks.

| MAIN FEATURES | BENEFITS |
|---|---|
| Dual- or Quad-Core Intel Xeon 5200/5400 series and 6/ 2x 6 MB SLC offer outstanding Dual- or Quad-Core perform-ance and balanced architecture that incorporates latest memory and I/O technologies | Higher overall productivity through outstanding Dual-/Quad-Core performance with fast FSB, large L2 cache etc. 64-bit computing for demanding applications, with full compat-ibility for 32-bit legacy applications, ideal for database applications |
| PCI-Express attached onboard 2x Gbit/s Ethernet LAN and modular RAID controller in PCIe slot | Fast communication path through usage of PCI-Express |
| Internal max. 6x 450 GB SAS / 6x 1 TB SATA 3.5" HDD or up to 12x 146 GB 2.5" SAS HDD, all hot-plug, 6 free PCIe and PCI-X slots | Highest flexibility on basis of latest I/O technologies for consolidation of data and applications. |
| Hot-plug, redundant power supply and fans options, Hot-plug hard disks, modular RAID5, LSP module option | No-break repair service saves cost, reduces planned and unplanned downtimes |
| Integrated Remote Management Controller (iRMC), IPMI 2.0 | Comfort and security for continuous operation |

## Technical details

### PRIMERGY RX300 S4

| Housing type | Rack | Rack | Rack |
|---|---|---|---|
| Hard disk architecture | 12x 2.5" SAS | 6x 2.5" SAS | 6x 3.5" SAS/SATA |

### Mainboard

| | |
|---|---|
| Mainboard type | D 2519 |
| Chipset | Intel® 5000P |
| Processor quantity and type | 1 - 2 x Intel® Xeon® processor 5200 / 5300 / 5400 series |

| Processor options | |
|---|---|
| | Intel® Xeon® E5205 (2C, 1.86 GHz, SLC: 6 MB , 1066 MHz, 65 W) |
| | Intel® Xeon® E5405 (4C, 2.00 GHz, SLC: 2 x 6 MB , 1333 MHz, 80 W) |
| | Intel® Xeon® E5410 (4C, 2.33 GHz, SLC: 2 x 6 MB , 1333 MHz, 80 W) |
| | Intel® Xeon® E5420 (4C, 2.50 GHz, SLC: 2 x 6 MB , 1333 MHz, 80 W) |
| | Intel® Xeon® E5430 (4C, 2.66 GHz, SLC: 2 x 6 MB , 1333 MHz, 80 W) |
| | Intel® Xeon® E5440 (4C, 2.83 GHz, SLC: 2 x 6 MB , 1333 MHz, 80 W) |
| | Intel® Xeon® L5240 (2C, 3.00 GHz, SLC: 6 MB , 1333 MHz, 40 W) |
| | Intel® Xeon® L5410 (4C, 2.33 GHz, SLC: 2 x 6 MB , 1333 MHz, 50 W) |
| | Intel® Xeon® L5420 (4C, 2.50 GHz, SLC: 2 x 6 MB , 1333 MHz, 50 W) |
| | Intel® Xeon® L5430 (4C, 2.66 GHz, SLC: 2 x 6 MB , 1333 MHz, 50 W) |
| | Intel® Xeon® X5260 (2C, 3.33 GHz, SLC: 6 MB , 1333 MHz, 80 W) |
| | Intel® Xeon® X5270 (2C, 3.50 GHz, SLC: 6 MB , 1333 MHz, 80 W) |
| | Intel® Xeon® X5460 (4C, 3.16 GHz, SLC: 2 x 6 MB , 1333 MHz, 120 W) |
| | Intel® Xeon® X5470 (4C, 3.33 GHz, SLC: 2 x 6 MB , 1333 MHz, 120 W) |

| | |
|---|---|
| Memory slots | 12 (2 Memory boards with 6 slots each, 1 memory board preinstalled) |
| Memory slot type | PC2-5300F (Fully buffered DIMM DDR2 667 ECC) |
| Memory capacity (min. - max.) | 1 GB - 48 GB |
| Memory protection | Advanced ECC<br>Memory Scrubbing<br>SDDC (Chipkill™)<br>Hot-spare memory support<br>Memory Mirroring support |

| Memory options | |
|---|---|
| | 8 GB (2 module(s) with 4 GB) DDR2, fully buffered, 667 MHz, PC2-5300F, DIMM |
| | 4 GB (2 module(s) with 2 GB) DDR2, fully buffered, 667 MHz, PC2-5300F, DIMM |
| | 2 GB (2 module(s) with 1 GB) DDR2, fully buffered, 667 MHz, PC2-5300F, DIMM |

| | |
|---|---|
| Upgrade notes | A BIOS update can be necessary for a memory and processor upgrade. |

### Interfaces

| | |
|---|---|
| USB ports | 6 x USB 2.0 (2x front, 2x rear, 2x internal) |

## Interfaces

| | |
|---|---|
| Graphics (15-pin) | 1 x VGA |
| Serial 1 (9-pin) | 1 x serial RS-232-C,  usable for iRMC or system or shared |
| Serial 2 (9-pin) | 1 as option (occupies PCI slot 1) |
| Parallel (25-pin) | 1 x Centronics as option (occupies PCI slot 5) |
| Mouse / Keyboard (PS/2) | 2 |
| LAN / Ethernet (RJ-45) | 2  x Gbit/s Ethernet |
| Service LAN (RJ45) | 1 x dedicated service LAN port for iRMC S2 (10/100 Mbit/s)<br>Service LAN traffic can be switched to shared onboard Gbit LAN port |

## Onboard or integrated Controller

| | |
|---|---|
| RAID Controller | Integrated RAID 0/1 or RAID 5/6 controller for SAS base units (occupies one PCIe slot).<br>See under Components RAID controller |
| SATA Controller | ESB2-T, with two SATA channels for DVD + backup |
| LAN Controller | BCM 5708S, 2 x 10/100/1000 Mbit/s Ethernet (TCP/IP acceleration), PXE Boot or iSCSI boot via onboard LAN |
| Remote Management Controller | Integrated Remote Management Controller (iRMC S2, 32 MB attached memory incl. graphics controller), IPMI 2.0 compatible |
| Trusted Platform Module (TPM) | Infineon / 1.2 (option) |

## Slots

| | |
|---|---|
| PCI-Express x4 (mech. x8) | 6 x low profile |
| PCI-X | 1 x 64-bit / 133 MHz, 3.3 V |
| Slot Notes | Two of four PCI-Express x4 slots can be used as x8, if neighbour slot is empty.<br>1 x PCI-Express x4 occupied by modular RAID controller |

## Drive bays

| | |
|---|---|
| Accessible drive bays | 1 x 5.25/0.5-inch for CD-RW/DVD<br>1 x 3.5/0.5-inch for ServerView Local Service Panel  or Local Service Display or FDD<br>1 x 3.5/1.6-inch for backup devices (occupies 2x 3.5 or 6x 2.5-inch HDD bay) |
| Notes accessible drives | All possible options described in relevant system configurator. |

## Drive bays (Base unit specific)

| | | | |
|---|---|---|---|
| Hard disk bays | 12 x 2.5-inch hot-plug SAS | 6 x 2.5-inch hot-plug SAS | 6 x 3.5-inch hot-plug SAS/SATA |
| Optional hard disk bays | | 6 x 2.5-inch hot-plug SAS | |

## General system information

| | |
|---|---|
| Fan configuration | 4 hot-plug fans as standard, redundant fan unit with 4 hot-plug fans as option (1+1 redundancy) |

## Operating panel

| | |
|---|---|
| Operating buttons | On/off switch<br>NMI button<br>Reset button |
| Status LEDs | System status (amber / yellow)<br>Identification (blue)<br>Hard disks access (green)<br>Power (amber / green)<br>At system rear side:<br>System status (amber / yellow)<br>Identification (blue)<br>LAN connection (green)<br>LAN speed (green / yellow) |
| Service display | Optional:<br>ServerView Local Service Panel (LSP)<br>ServerView Local Service Display (LSD) |

## BIOS

| BIOS features | ROM based setup utility |
|---|---|
| | Recovery BIOS |
| | BIOS settings save and restore |
| | Local BIOS update from USB device |
| | Online update tools for main Windows and Linux versions |
| | Local and remote update via ServerView Update Manager |
| | SMBIOS V2.4 |
| | Remote PXE boot support |
| | Remote iSCSI boot support |

## Supported operating systems

| Supported operating systems | Microsoft® Windows Server® 2008 |
|---|---|
| | Microsoft® Windows Server® 2003 |
| | Novell SUSE Linux Enterprise Server |
| | Red Hat Enterprise Linux |
| | Citrix® XenServer™ |
| | VMware Infrastructure |
| | Note: Support of other Linux derivatives on demand |
| Operating system release link | http://ts.fujitsu.com/software |
| | http://docs.ts.fujitsu.com/dl.aspx?id=a9e600b9-e4cb-4f48-aa41-632f69058421 |

## Server Management

| Standard | ServerView Suite: |
|---|---|
| |       SV Installation Manager |
| |       SV Operation Mananger |
| |       SV RAID Manager |
| |       SV Update Manager |
| |       SV Agents |
| | Online update packages for BIOS, firmware drivers and ServerView Agents |
| | ServerView Integration solutions for Microsoft SMS, MOM, SCOM, SCCM and Altiris Deployment Solution |
| | ServerView Deployment Manager (fully functional 30-day trial version) |
| Option | ServerView Deployment Manager (fully functional unlimited version) |
| | ServerView Remote Management |
| | ServerView Integration for Tivoli TEC®, Tivoli NetView, HP OpenView NNM and HP OpenView |
| | iRMC S2 Advanced Pack |
| Server Management notes | Regarding Operating System dependencies and product details for ServerView Suite Software Products see dedicated Product Data sheets. |

## Dimensions / Weight

| Rack (W x D x H) | 482.6 x 785 x 85.9 mm |
|---|---|
| Mounting Depth Rack | 745 mm |
| Height Unit Rack | 2 U |
| 19” rackmount | Yes |
| Weight | up to 25 kg |
| Weight notes | Weight may vary depending on actual configuration |
| Rack integration kit | Rack integration kit as option |
| Floor-stand (W x D x H) | |
| Rack (W x D x H) | |

## Environmental

| Noise emission | Measured according to ISO 7779 and declared according to ISO 9296 |
|---|---|
| Sound pressure (LpAm) | 52 dB(A) (idle) / 52 dB(A) (operating) |
| Sound power (LWAd; 1B = 10dB) | 6.9 B (idle) / 6.9 B (operating) |
| Operating ambient temperature | 10 - 35°C |
| Operating relative humidity | 10 - 85 % (non condensing) |

## Electrical values

| Power supply configuration | hot-plug power supply as standard, redundancy as option (1 + 1 redundancy) |
|---|---|
| Max. output of power supply | 700 W |
| Hot-plug power supply redundancy | Yes |
| Rated voltage range | 100 - 240 V |
| Rated frequency range | 50 - 60 Hz |

## Electrical values

| | |
|---|---|
| Rated current max. | 8.0 A – 3.5 A (100 V / 240 V) |
| Rated current in basic configuration | 4.2 A - 1.4 A (100 V / 240 V) |
| Active power max. (per system unit) | 726 W |
| Apparent power max. (per system unit) | 737 VA |
| Heat emission | 2613.6 kJ/h (2477.8 BTU) |

## Compliance

| | |
|---|---|
| Germany | GS |
| Europe | CE |
| USA/Canada | CSAc/us<br>ULc/us<br>FCC Class A |
| Global | CB<br>RoHS (Restriction of hazardous substances)<br>WEEE (Waste electrical and electronical equipment) |
| Japan | VCCI |
| Australia/New Zealand | C-Tick |
| Taiwan | BSMI |
| Compliance notes | There is general compliance with the safety requirements of all European countries and North America. National approvals required in order to satisfy statutory regulations or for other reasons can be applied for on request. |
| Compliance link | https://sp.ts.fujitsu.com/sites/certificates/default.aspx |

## Components

| | |
|---|---|
| **Hard disk drives** | SATA, 3 Gb/s, 1000 GB, 7200 rpm, hot plug, 3.5-inch |
| | SATA, 3 Gb/s, 750 GB, 7200 rpm, hot plug, 3.5-inch |
| | SATA, 3 Gb/s, 500 GB, 7200 rpm, hot plug, 3.5-inch |
| | SATA, 3 Gb/s, 250 GB, 7200 rpm, hot plug, 3.5-inch |
| | SAS, 3 Gb/s, 450 GB, 15000 rpm, hot plug, 3.5-inch |
| | SAS, 3 Gb/s, 300 GB, 15000 rpm, hot plug, 3.5-inch |
| | SAS, 3 Gb/s, 146 GB, 15000 rpm, hot plug, 3.5-inch |
| | SAS, 3 Gb/s, 146 GB, 10000 rpm, hot-plug, 3.5-inch |
| | SAS, 3 Gb/s, 146 GB, 10000 rpm, hot-plug, 2.5-inch |
| | SAS, 3 Gb/s, 73 GB, 15000 rpm, hot plug, 3.5-inch |
| | SAS, 3 Gb/s, 73 GB, 15000 rpm, hot-plug, 2.5-inch |
| | SAS, 3 Gb/s, 73 GB, 10000 rpm, hot-plug, 2.5-inch |
| | SAS, 3 Gb/s, 36 GB, 15000 rpm, hot plug, 2.5-inch |
| Hard disk notes | One Gigabyte equals one billion bytes, when referring to hard disk drive capacity. Accessible capacity may vary, also depending on used software |
| **Tape Drives** | DDS Gen5 (for 3.5-inch HDD bay), 36 GB , 3 MB/s, half height, USB 2.0 |
| | RDX Drive (for 3.5-inch HDD bay), 80 GB, 160 GB, 320 GB , 25 MB/s, half height, USB 2.0 |
| **Optical drives** | Blu-ray combo drive, (2x BD-ROM; 8x DVD; 24x CD), slimline, SATA I |
| | DVD Super Multi, (8x DVD/DVD+RW, 6x DVD-RW, 5x DVD-RAM; 24x CD/CD-R, 16x CD-RW), slimline, SATA I |
| **SCSI / SAS Controller** | SCSI Ctrl 320 MB 1x int /1x ext |
| | SAS Ctrl 3 Gb 4 ports int. / 4 ports ext. |

| RAID Controller | RAID 5/6 Ctrl, SAS/SATA 3 Gb, LSI MegaRAID SAS8880E, 8 ports ext.<br>RAID level: 0, 1, 10, 5, 50, 6, 60, 512 MB Cache, optional BBU (based on LSI 1078) |
|---|---|
| | RAID 5/6 Ctrl, SAS/SATA 3 Gb, LSI MegaRAID SAS8880E, 8 ports ext.<br>RAID level: 0, 1, 10, 5, 50, 6, 60, 512 MB Cache, inclusive BBU (based on LSI 1078) |
| | Integrated RAID 5/6 Ctrl, SAS/SATA 3 Gb, 8 ports int.<br>RAID level: 0, 1, 10, 5, 50, 6, 60, 512 MB Cache, optional BBU (based on LSI 1078) |
| | Integrated RAID 5/6 Ctrl, SAS/SATA 3 Gb, 8 ports int.<br>RAID level: 0, 1, 10, 5, 50, 6, 60, 256 MB Cache, optional BBU (based on LSI 1078) |
| | Integrated RAID 0/1 Ctrl, SAS/SATA 3 Gb, 8 ports int.<br>RAID level: 0, 1, 1E, no BBU support (based on LSI 1068e) |
| **Fibre Channel controller** | Fibre Channel Ctrl 2 x 4 Gb Emulex LPe11002 MMF LC |
| | Fibre Channel Ctrl 1 x 4 Gb Emulex LPe1150 MMF LC |
| | Fibre Channel Ctrl 1 x 4 Gb Qlogic QLE2460 MMF LC |
| | Fibre Channel Ctrl 2 x 4 Gb Qlogic QLE2462 MMF LC |
| | Fibre Channel Ctrl 2 x 8 Gb Emulex LPe12002 MMF LC |
| | Fibre Channel Ctrl 1 x 8 Gb Emulex LPe1250 MMF LC |
| **LAN Controller** | Ethernet Ctrl 1 x 1 Gb Intel® Gigabit CT Desktop Adapter |
| | Ethernet Ctrl 1 x 1 Gb Intel® PRO/1000 GT Desktop Adapter low profile |
| | Ethernet Ctrl 1 x 1 Gb Intel® PRO/1000 MT Server Adapter low profile |
| | Ethernet Ctrl 1 x 1 Gb Intel® PRO/1000 PF Server Adapter |
| | Ethernet Ctrl 1 x 1 Gb Intel® PRO/1000 PT Server Adapter |
| | Ethernet Ctrl 2 x 10 Gb Intel® 10 Gigabit XF SR Dual Port Server Adapter |
| | Ethernet Ctrl 2 x 1 Gb Intel® PRO/1000 GT Dual Port Server Adapter low profile |
| | Ethernet Ctrl 2 x 1 Gb Intel® PRO/1000 PT Dual Port Server Adapter |
| | Ethernet Ctrl 4 x 1 Gb Intel® PRO/1000 PT Quad Port Server Adapter |
| **Rack infrastructure** | Cable Arm 2U for 3rd party racks |
| | Cable Management for 19-inch DataCenter / PRIMECENTER Racks |
| | Rackmount kit full extraction (760mm), tool less mounting |
| | Rackmount kit partly extraction (524mm), tool less mounting |

| **Warranty** | |
|---|---|
| Standard Warranty | 3 years |
| Service level | On-site Service |
| **Maintenance and Support Services - the perfect extension** | |
| Recommended Service | 7x24, Onsite Response Time: 4h |
| Spare Parts availability | 5 years |
| Service Weblink | http://ts.fujitsu.com/Supportservice |

Information about environmental care, policies, programs and our Environmental Guideline FSC 03230:
http://ts.fujitsu.com/aboutus
Take back and Recycling information:
http://ts.fujitsu.com/recycling